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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,067	11/19/2003	Chhman Sukhna	P/1281-121	7234

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,067

Applicant(s)

SUKHNA, CHHMAN

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21-22 contain the trademark/trade names DC-190 and DC-193, respectively.

Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe dimethicone copolyol and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-9, 11-14, 17-18, 23, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyamoto et al. '435 (U.S. 6,492,435) taken in view of the evidence given in Miyamoto et al. '099 (U.S. 6,451,099).

Miyamoto et al. '435 disclose water-based opaque ink comprising 10-40% purified water, 0.5-10% hollow microsphere obtained from resin emulsion, humectant, i.e. glycol, pH adjustor, dispersant, and polyether-modified silicone, i.e. dimethicone copolyol. The hollow microsphere is known under the tradename OP-62 which is well known, as evidenced by Miyamoto et al. '099 (col.7, lines 24-62), to be obtained from styrene acrylic copolymer. It is disclosed that either the ink comprises a colorant or the hollow microsphere is dyed. There is no disclosure of neutral buoyancy additive. There is also disclosed ball-point pen comprising the ink (col.1, lines 6-16, col.2, lines 63-65, col.4, lines 31-32, col.5, lines 48-53, col.6, lines 19-55, and col.7, lines 7-8 and 11-21). Although there is no explicit disclosure of the density of the ink, given that Miyamoto et al. disclose water-based ink comprising identical type and amount of hollow

Art Unit: 1714

microspheres as presently claimed, it is clear that the ink would intrinsically possess density as presently claimed.

In light of the above, it is clear that Miyamoto et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (U.S. 6,492,435) in view of Wang et al. (U.S. 5,769,931).

The disclosure with respect to Miyamoto et al. '435 in paragraph 4 above is incorporated here by reference.

The difference between Miyamoto et al. '435 and the present claimed invention is the requirement in the claims of fluorinated surfactant.

Wang et al., which is drawn to writing ink, disclose the use of fluorinated surfactant in order to effectively wet the nib of the pen to provide an acceptable delivery rate of ink to the writing surface (col.4, lines 19-29).

In light of the motivation for using fluorinated surfactant disclosed by Wang et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such surfactant in the ink of Miyamoto et al. in order to provide an acceptable delivery rate of ink to the writing surface, and thereby arrive at the claimed invention.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (U.S. 6,492,435) in view of Imagawa et al. (U.S. 5,716,217).

The disclosure with respect to Miyamoto et al. '435 in paragraph 4 above is incorporated here by reference.

The difference between Miyamoto et al. '435 and the present claimed invention is the requirement in the claim of alcohol.

Imagawa et al., which is drawn to ink composition, disclose the use of alcohol in order to produce writing that are readily dried when formed (col.6, lines 24-30).

In light of the motivation for using alcohol disclosed by Imagawa et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use alcohol in the ink of Miyamoto et al. '435 in order to produce ink that dries readily, and thereby arrive at the claimed invention.

Art Unit: 1714

8. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (U.S. 6,492,435) in view of Loftin (U.S. 5,338,793).

The disclosure with respect to Miyamoto et al. '435 in paragraph 4 above is incorporated here by reference.

The difference between Miyamoto et al. '435 and the present claimed invention is the requirement in the claims of specific type of dimethicone copolyol.

Loftin, which is drawn to ink composition, disclose the use of dimethicone copolyol known under the tradename DC-190 or DC-193 in order to wet substrate and improve erasability of the ink (col.3, lines 4-26).

In light of the motivation for using specific type of dimethicone copolyol disclosed by Loftin as described above, it therefore would have been obvious to one of ordinary skill in the art to use such dimethicone copolyol in the ink of Miyamoto et al. '435 in order to produce ink that effectively wets surface of substrate and improves erasability of ink, and thereby arrive at the claimed invention.

9. Claims 1, 3-4, 6-12, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loria et al. (U.S. 4,880,465) in view of Takemoto et al. (U.S. 6,827,433).

Loria et al. disclose opaque ink comprising 2-20% resin, 5-25% hollow microsphere filled with water, and the remainder carrier that comprises deionized water and 1-20% alcohol. The ink also comprises coalescent, pH adjustor, and colorant. The ink possesses viscosity of 3-10 cP and density of about 1 g/cm³. There is no disclosure of neutral buoyancy additive (col.2, lines

Art Unit: 1714

45-63, col.3, lines 28-37 and 60-63, col.4, lines 43-44 and 60-62, and col.5, lines 5-9, 16-17, 32-41, and 50-67).

The difference between Loria et al. and the present claimed invention is the requirement in the claims of dimethicone copolyol.

Takemoto et al., which is drawn to ink jet ink, disclose the use of polyether-modified polysiloxane, i.e. dimethicone copolyol, in order to produce ink that can realize good image on paper, i.e. does not cause color bleed or uneven printing (col.1, lines 8-11, col.1, line 66-col.2, line 5, and col.2, lines 7-30).

In light of the motivation for using dimethicone copolyol disclosed by Takemoto et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use dimethicone copolyol in the ink of Loria et al. in order to produce ink that can realize good image on paper, and thereby arrive at the claimed invention.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Loria et al. in view of Takemoto et al. as applied to claims 1, 3-4, 6-12, and 18-19 above, and further in view of Imagawa et al. (U.S. 5,716,217).

The difference between Loria et al. in view of Takemoto et al. and the present claimed invention is the requirement in the claims of hollow microsphere modified with colorant.

Imagawa et al., which is drawn to ink composition comprising hollow microspheres, disclose coloring the ink either by adding colorant to the ink, as disclosed by Loria et al., or coloring the hollow microspheres with dye (col.3, lines 44-46).

In light of the disclosure in Imagawa et al. of the equivalence and interchangeability of producing colored ink either by adding colorant to the ink or modifying the hollow microspheres with dye, it therefore would have been obvious to one of ordinary skill in the art to utilize hollow microspheres modified with dye in the ink of Loria et al. in order to produce ink with desired color, and thereby arrive at the claimed invention.

11. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loria et al. in view of Takemoto et al. as applied to claims 1, 3-4, 6-12, and 18-19 above, and further in view of Beach et al. (U.S. 6,309,452).

The difference between Loria et al. in view of Takemoto et al. and the present claimed invention is the requirement in the claims of humectant.

Beach et al., which is drawn to ink jet ink comprising hollow microspheres, disclose the use of glycol humectant (col.6, lines 32-45).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to utilize glycol humectant in the ink of Loria et al. in order to prevent ink from drying and clogging printer nozzles, and thereby arrive at the claimed invention.

12. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loria et al. in view of Takemoto et al. as applied to claims 1, 3-4, 6-12, and 18-19 above, and further in view of Pearlstine et al. (U.S. 6,087,416).

The difference between Loria et al. in view of Takemoto et al. and the present claimed invention is the requirement in the claims of fluorocarbon surfactant.

Pearlstine et al., which is drawn to ink jet inks, disclose the use of fluorosurfactant in order to effectively wet the surface of the substrate (col.6, lines 56-67).

In light of the motivation for using fluorosurfactant disclosed by Pearlstine et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such surfactant in the ink of Loria et al. in order to produce ink that effectively wets surface of substrate, and thereby arrive at the claimed invention:

13. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imagawa et al. (U.S. 5,716,217) in view of Loftin (U.S. 5,338,793) and Tanaka et al. (U.S. 2003/0228430).

Imagawa et al. disclose water-based opaque ink comprising not less than 30% purified water, 0.5-50% hollow microsphere, release agent, alcohol, dispersant, humectant, i.e. glycol, fluorinated surfactant, and pH controller. The hollow microspheres are obtained from styrene acrylic acid emulsion. The hollow microspheres include those known under the tradename OP-84J which are well known, as found in Tanaka et al. (paragraph 126), to be filled with water. The ink is colored by modifying the hollow microspheres with pigment or adding pigment to the ink. There is also disclosed pen containing the ink wherein the ink comprises nib and reservoir where the ink is in filler material (col.1, lines 48-55, col.2, lines 27-48, col.2, line 56-col.3, line 3, col.3, lines 19-33 and 44-49, col.4, line 66-col.5, line 4, col.5, line 51-col.6, line 3, and col.6, lines 24-34). Although there is no explicit disclosure of the density of the ink, given that Imagawa et al. disclose water-based ink comprising identical type and amount of hollow microspheres as presently claimed, it is clear that the ink would intrinsically possess density as presently claimed.

The difference between Imagawa et al. and the present claimed invention is the requirement in the claims of (a) dimethicone copolyol and (b) viscosity of the ink.

With respect to difference (a), Loftin, which is drawn to ink composition, disclose the use of dimethicone copolyol known under the tradename DC-190 or DC-193 in order to wet substrate and improve erasability of the ink (col.3, lines 4-26).

In light of the motivation for using dimethicone copolyol disclosed by Loftin as described above, it therefore would have been obvious to one of ordinary skill in the art to use dimethicone copolyol in the ink of Imagawa et al. in order to produce ink that effectively wets surface of substrate and improves erasability of ink, and thereby arrive at the claimed invention.

With respect to difference (b), Loftin, which is drawn to ink for writing board as is Imagawa et al., disclose using ink with viscosity of less than 20 cP in order that the ink is not too thick for practical use in a pen or marker (col.4, lines 13-20).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to control the viscosity of the ink of Imagawa et al. to less than 20 cP in order to produce an ink that is not too thick and thus, can be used in pen or marker, and thereby arrive at the claimed invention.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chung et al. (U.S. 6,930,135) disclose ink jet ink comprising water, hollow microsphere, alcohol, surfactant, humectant, and pH adjustor, however, there is no disclosure of dimethicone copolyol as presently claimed.

Art Unit: 1714

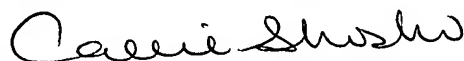
Sergely et al. (U.S. 3,834,823) disclose ink comprising dimethicone copolyol known under the tradename DC-193.

Kamagata et al. (U.S. 6,312,510), similar to Miyamoto et al. (U.S. 6,492,435), disclose ink comprising hollow microsphere, humectant, pH adjustor, pigment, and polyether-modified silicone.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714